

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of the claims in the application.

1. (Currently Amended) A method for in vitro detection of malignant potential of dysplasia, comprising the steps of: (a) extraction of genomic DNA from cells in a sample of tissue or body liquid; (b) detection of methylation state of *p16* CpG islands in genomic DNA[[,]] by amplification ~~with the artificial DNA sequences of SEQ ID NOs: 1-4; and (c) determination/evaluation of~~ malignant potential of the tested tissue or body liquid based upon the presence of artificial sequences corresponding to methylated and unmethylated *p16* CpG islands after chemical modification.
2. (Original) A method for in vitro detection of malignant potential of dysplasia of claim 1 wherein the methylation state of *p16* CpG islands is analyzed by methylation-specific PCR (MSP).
3. (Original) A method for in vitro detection of malignant potential of dysplasia of claim 2 wherein methylated-sequence specific primers are complementary to any part of the artificial sequence SEQ ID NO: 1 or SEQ ID NO: 3, or wherein unmethylated-sequence specific primers are complementary to any part of the artificial sequence SEQ ID NO: 2 or SEQ ID NO: 4.
4. (Original) An artificial nucleotide having a sequence corresponding to the antisense sequence of methylated *p16* CpG islands of SEQ ID NO: 1.
5. (Original) An artificial nucleotide having a sequence corresponding to the antisense sequence of unmethylated *p16* CpG islands of SEQ ID NO: 2.
6. (Original) An artificial nucleotide having a sequence corresponding to the sense sequence of methylated *p16* CpG islands of SEQ ID NO: 3.

7. (Original) An artificial nucleotide sequence corresponding to the sense sequence of unmethylated *p16* CpG islands of SEQ ID NO: 4.